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- (a) stably integrating into the genome of a plant cell a recombinant DNA to generate a transgenic plant cell, said recombinant DNA comprising:
 - (i) a promoter functional in plant; and
 - (ii) a DNA sequence ~~complementary~~ to a citrate synthase gene fused to said promoter, such that antisense RNA is expressed from the DNA sequence; and
 - (b) regenerating a plant from said transgenic cell.

REMARKS

The Claim Amendments

Applicants have cancelled claims 15 and 25-26 and have recast their subject matter as newly added claims 71-73, respectively. Original claims 15 and 25-26 included underlining, and thus had to be amended by rewriting the claims.

Applicants have cancelled claim 40 and incorporated its subject matter in amended claim 39.

Applicants have amended claims 3-6, 17, 20-23, 28, 29, 46-51, 56, 57 and 60 to improve their form, to recite proper claim dependencies and to delete improper multiple dependencies. Applicants have also amended former claims 15 and 26 (claims 71 and 73, respectively) to improve their form.

Applicants have amended claims 2 and 24 and former claim 25 (claim 72) to recite that the endogenous DNA sequences encoding citrate synthase are inhibited. Support

for these amendments are found throughout the specification. See, *e.g.*, page 3, lines 19-21. Applicants have amended claims 39 and 41 to recite methods of inhibiting or increasing, respectively, flower formation in plants. Support for these amendments are found throughout the specification. See, *e.g.*, page 2, lines 24-28.

Applicants have amended claim 58 to recite the step of introducing a DNA molecule into a plant cell and expressing non-translatable RNA from the DNA molecule. Support for this amendment is found throughout the specification. See, *e.g.*, page 4, lines 27-31. Applicants have amended claim 61 to recite a DNA molecule comprising a coding region of a citrate synthase of the *Solanaceae* or *Chenopodiaceae* families operably linked to elements suitable for controlling the transcription of the coding region. Support for this amendment is found throughout in the claims as originally filed and in the specification. See, *e.g.*, page 7, lines 22-26, and page 8, lines 5-8.

Applicants have further amended claims 2, 24, 39, 41, 58 and 61 to improve their form.

Applicants have added claims 62-73. Support for claim 62 is found throughout the specification. See, *e.g.*, page 6, lines 14-25. Support for claims 63-68 is found throughout the specification, including at page 7, lines 27-33. Support for claims 69-70 is found at page 5, lines 5-6. Support for claims 71-73 are found in originally-filed claims 15 and 25-26, respectively.

None of the amendments add new matter. Their entry is requested.

Claims 1-14, 16-24, 28-39, 41 and 43-73 are now pending.

The Restriction Requirement

The Examiner states that restriction is required under 35 U.S.C. § 121 and § 372. The Examiner states that the application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1. Specifically, the Examiner states that there are five inventions:

- Group I: Claims 1-5, 15, 17-21, 24-26, 28-29, 39-40, 43-52, 56-58, 60 and 61, drawn to transgenic plants with reduced citrate synthase activity and processes of inhibiting flower formation in plants by reducing citrate synthase activity.
- Group II: Claims 8-14, 16-17, 20, 30-39, 41, 43-57 and 61, drawn to transgenic plants with increased citrate synthase activity and a process for modified flower formation in plants by increasing citrate synthase activity.
- Group III: Claims 6-7, 22 and 24-26, drawn to storage organs of plants having reduced citrate synthase activity and a process for improving storage capability of storage organs of plants.
- Group IV: Claims 23-26, 28 and 29, drawn to a process for reducing sprouting of tubers.
- Group V: Claim 59, drawn to a process for isolating homologous sequences from a plant genome.

The Examiner states that Groups I-III* do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same corresponding special technical features. The Examiner states that Groups I and II are drawn to divergent plants and methods of using the gene encoding citrate synthase in plants to alter flower formation. The Examiner also states that Groups I-III are drawn to different

* The Examiner recites Groups I-III, but it appears that she is referring to Groups I-V. The Examiner also fails to discuss Group IV.

desired results in divergent organs of a plant, flowers vs. storage organs vs. tuber sprouts. The Examiner further states that the process of Group V is drawn to a different process of using the DNA than the processes of Groups I-III.

The Requirement for an Election of Species

The Examiner states that an election of species is required if one of Groups I-V are elected. The Examiner states that if one of Groups II, III and V is elected, the species are as follows:

- Species I: DNA encoding citrate synthase of *S. tuberosum*, e.g., corresponding to claims 9, 33, 34, 43, 46, 49 and 53.
- Species II: DNA encoding citrate synthase of *N. tabacum*, e.g., corresponding to claims 9, 33, 34, 44, 47, 51 and 55.*
- Species III: DNA encoding citrate synthase of *B. vulgaris*, e.g., corresponding to claims 9, 33, 34, 45, 48, 50 and 54.*
- Species IV: DNA encoding citrate synthase of *S. cerevisiae*, e.g., corresponding to claims 11 and 36.
- Species V: DNA encoding citrate synthase of *E. coli*, e.g., corresponding to claims 12, 13, 37 and 38.**

* The Examiner states that claims 47 and 51 correspond to DNA encoding *N. tabacum* citrate synthase and claims 48 and 50 correspond to DNA encoding *B. vulgaris* citrate synthase. However, claims 47 and 51 recite SEQ ID NOS: 4 and 3, respectively, which are the amino acid and DNA sequences from *B. vulgaris* citrate synthase, while claims 48 and 50 recite SEQ ID NOS: 6 and 5, respectively, which are the amino acid and DNA sequences from *N. tabacum* citrate synthase.

** Claims 12 and 37 are drawn to DNA encoding citrate synthase from any prokaryotic organism and are not drawn specifically to DNA encoding *E. coli* citrate synthase.

The Examiner also states that an election of species is required if one of Groups I, IV and V is elected. The species are as follows:

- Species VI: DNA encoding citrate synthase of *S. tuberosum* in anti-sense orientation, *e.g.*, corresponding to claims 3, 15, 18, 25, 26, 28, 43, 46, 49 and 60.*
- Species VII: DNA encoding citrate synthase of *N. tabacum* in anti-sense orientation, *e.g.*, corresponding to claims 3, 15, 18, 25, 26, 28, 43, 46, 49 and 60.**
- Species VIII: DNA encoding citrate synthase of *B. vulgaris* in anti-sense orientation, *e.g.*, corresponding to claims 3, 15, 25, 26, 28, 45, 48, 50 and 60.***
- Species IX: DNA encoding citrate synthase of *S. cerevisiae* in anti-sense orientation, *e.g.*, corresponding to claims 3, 15, 25 and 26.
- Species X: DNA encoding citrate synthase of *E. coli* in anti-sense orientation, *e.g.*, corresponding to claims 3, 15, 25 and 26.
- Species XI: The use of ribozymes cleaving specifically RNA coding for citrate synthase, *e.g.*, corresponding to claims 4 and 29.

* Claim 3 and former claims 15 and 25-26 (claims 71-73, respectively) are drawn to DNA molecules expressing antisense RNA, transgenic plants that express an antisense molecule and processes of using these transgenic plants. Thus, contrary to the Examiner's assertions, these claims are not specifically drawn to particular species of citrate synthase.

** The Examiner states that claims 18, 43, 46 and 49 correspond to DNA encoding *N. tabacum* citrate synthase in antisense orientation. However, claims 18, 43, 46 and 49 are drawn to DNA molecules encoding *S. tuberosum* citrate synthase in antisense orientation. Claims 19, 44, 48 and 50 are drawn to DNA molecules encoding *N. tabacum* citrate synthase in antisense orientation (plasmid TCSAS and SEQ ID NOS: 5 and 6).

*** The Examiner states that claims 48 and 50 correspond to DNA encoding *B. vulgaris* citrate synthase in antisense orientation. However, claims 48 and 50 correspond to DNA molecules encoding *N. tabacum* in antisense orientation. Claims 47 and 51 correspond to DNA molecules encoding *B. vulgaris* citrate synthase in antisense orientation (SEQ ID NOS: 3 and 4).

The Examiner states that claims 1, 2, 5-8, 10, 14, 16, 17, 20-24, 30-32, 35, 39-41, 52, 56-59 and 61 are generic.

The Examiner states that the above species do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, each species is a different structural DNA molecule isolated from widely divergent organisms or at least from plants of different genera.

The Examiner states that applicants are required to elect a single invention to which the claims must be restricted. Applicants respectfully traverse in part.

The Manual of Patent Examining Procedure (MPEP) states that there are two criteria for a proper requirement of restriction between patentably distinct inventions. The first is that the inventions must be independent or distinct as claimed. The second is that there must be a serious burden on the Examiner if restriction is not required. The MPEP further states that "[i]f the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to distinct or independent inventions." MPEP § 803.

The claims of Group I are directed to transgenic plants having reduced citrate synthase activity and to a process of reducing citrate synthase activity in transgenic plants that results in an inhibition of flower formation. The claims of Group III, which are directed to a storage organ of a transgenic plant, should not be separated from those of Group I because a storage organ of a transgenic plant is part of the transgenic plant. Thus, a search for a transgenic plant having reduced citrate synthase activity would necessarily be co-extensive with a search for the storage organ of the plant.

The process claims of Groups III and IV also should not be separated from the process claims of Group I. The process claims of all of Groups I, III and IV are directed to a process of reducing citrate synthase activity in transgenic plant cells. Thus, a search of the process claims of Group I would necessarily be co-extensive with a search of the process claims of Groups III and IV. Furthermore, the claims of Groups I, III and IV are classified in the same class and subclass (class 800, subclass 205). Therefore, a search of the prior art for Group I, including both patents and non-patent literature, would be co-extensive with a search of Groups III and IV and there would be no serious burden for the Examiner to search these groups together. Applicants also note that the International Preliminary Examination Authority acknowledged unity of invention under PCT Rule 13. For these reasons, applicants request that Groups I, III and IV be rejoined.

Applicants also traverse the species election requirement. Each of these species, with the exception of Species XI, encodes citrate synthase, and thus together they define a single general inventive concept. Furthermore, a search for a transgenic plant comprising a construct encoding citrate synthase in the antisense orientation would encompass all species of citrate synthase. For these reasons, applicants request that the species election be withdrawn, at least for Species VI to X.

Conclusion

Applicants request that added claims 62-70, which are drawn to transgenic plants having reduced citrate synthase activities and seeds thereof, be considered together with the claims of Group I ("new Group I"). Furthermore, applicants believe that new

Group I and Groups III and IV should be considered together because there is no search burden for the Examiner to examine the subject matter of these three groups together. If the Examiner does not agree with this proposal, pursuant to 37 C.F.R. § 1.143, applicants provisionally elect with traverse the amended claims of Group I for initial substantive examination.

If the Examiner maintains that a species must be elected, applicants provisionally elect with traverse Species VI. Claims 1-3, 5, 17, 18, 20, 21, 24, 28, 39, 43, 46, 49, 52, 56-58, 60 and 61 read on the elected species in provisionally elected Group I. Added claims 63, 66 and 69-73 also read on the elected species in provisionally elected new Group I.

This election is made expressly without waiver of applicants' rights to continue to prosecute and to obtain claims to the non-elected subject matter either in this application or in other applications claiming priority herefrom.

Respectfully submitted,

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